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### Winning Project: Living the Suite Life: The Implementation of Environmental Technologies in the Hotel Industry

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Living the Suite Life: The Implementation of  
Environmental Technologies in the Hotel Industry

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### Abstract

This paper explores what techniques can be incorporated into everyday functions of hotel management to create a sustainable environment. Sustainability has become an important objective for businesses to consider and implement in their day-to-day processes. The types of sustainable practices in environmental technologies that are currently being experimented with in the hotel industry that this paper evaluates include LED lights, key-card systems, water restrictors, and paperless systems. LED lights, as well as key-card systems assist in the reduction of energy in guest' rooms. Water restrictors have also been inserted into the faucets and water heads in guests' rooms to decrease the amount of water being used. Finally, iPads and other electronic devices are used as substitutes to reduce the amount of paper printed in many hotel functions. In addition, reward programs are used to incentivize guests to participate in eco-friendly efforts. While these programs may cost hotels additional funds up front, they will be able to see the benefits and reap the rewards by putting the initial cost in. By practicing sustainability, hotels will not only have an improved image, in turn attracting more customers but also are considering future generations and the limited resources that we have available to us on the Earth.

*Keywords:* hotel industry, sustainability, environmental technologies

## Living the Suite Life: The Implementation of Environmental Technologies in the Hotel Industry

Numerous studies have been conducted on eco-friendly practices and sustainability in the hotel industry. As a result of increasing pressure from stockholders, customers, local government, and business partners to adopt eco-friendly initiatives, a growing focus in the hotel industry is to find ways to incorporate “green” efforts into their everyday processes with a limited budget. It may seem that every party involved is better off when sustainability is practiced, but we see that this issue is more complex than it seems on its face. While this may require hoteliers to present additional funds up front, a reduction in costs for hotels is existent the long-term view. Environmental technologies are being reinvented and improved and many studies explore the latest versions of such technologies that can be implemented in hotels as well as the results they have and changes they are creating in the hotel industry. As a result of increasing globalization, or the increasing connectedness around the world, travel has become more common, resulting in an increase in the demand for hotels. While there are many ways to increase the competitiveness among hotels, findings show that environmental technologies are one of the best ways to do so. Because of intense competition in this industry, hotel managers are considering alternative ways to keep their environmental technologies up to date as a way to attract and retain visitors. These studies examine the techniques implemented to reduce energy consumption, water usage, and paper usage in order to create a “greener”, more sustainable environment in the hotel industry.

Energy consumption can escalate costs in the hotel industry like no other. When guests visit hotels, the first thing they do when they arrive at their room is turn on the lights, possibly followed by a shower to freshen up after a long day of traveling. Contrary to popular belief, the

light switch does not always get flipped to “off” when guests leave their rooms. This miniscule action can add to a hotel’s energy costs tremendously. Researchers have found that “approximately 6% of a hotel’s total operating costs are energy costs” (Chan, 2017). A majority of these energy costs come from energy use in terms of lighting, specifically in guests’ rooms. Techniques that hotels are exploring to cut down on their energy costs include lighting control, LED lights, and key-card systems. Lighting control automatically turns off the lights, depending on the movement detected in a room. Hotels that have experimented with this technique have received negative reviews; guests have been reporting feelings of uncomfortableness as a result of the automatic lights. Hotel managers that have begun implementing environmentally friendly practices are leaning more towards LED lights and key-card systems because of their positive feedback. LED lights not only “use approximately 70% less energy than the incandescent lighting” (Chan, 2017), but also do not give off much heat when used. In addition to the energy reduction, this tremendously reduces the load on air conditioners, a side most critics would not have examined. The incandescent lights have been swapped out in guests’ rooms and public areas such as the hotel lobby and parking garages to create a more sustainable environment in the hotel. In addition to LED lights, another technique that is being implemented in hotels across the world, mainly in Europe and Asia, is key-card systems. These systems require the guest’s key-card to be inserted into a “pouch” upon entering their room. Once the key-card is inserted, the lights and television can be used, but only when the card is in the pouch. Because guests must take their key-card with them when they leave their rooms, it obligates them to remove their card, thus turning off all appliances and reducing energy consumption in guest’s rooms. Few of these systems even attach the air conditioning units; this is because some guests have discovered ways to “cheat the system”. They do so by sticking objects similar to the size of their key-card

into the pouch to keep the air conditioning running. This method is not extremely costly to hotels because guests are already given a key-card so not very many additional resources are required for this method to be executed. These key-card systems have influential impacts on energy consumption and “can result in savings of 25%-40% on guest room energy bills” (Chan, 2017).

Considering the amount of water used in not only guest’s rooms in hotels, but also in the pool, spa, and laundry facilities, this avenue of encompassing eco-friendly practices is promising. The most common environmental technology that has been put into place in the hotel industry is water restrictors. Hence the name, these restrict the flow of water by reducing the pressure of the water flow. Water restrictors are very popular and are typically installed in the showerhead of the bathroom in the guest rooms. In a study conducted by Chan (2017), focusing on Holiday Inn Express SOHO in Hong Kong, the hotel manager commented that the hotel was able to “save up to 26% of the water used by installing water restrictors just in the guest room shower heads”. This simple addition to each room, while it may create a cost for the hotel initially, has a large potential to save money; environmental technologies to reduce water usage are powerful. Laundry also consumes a large portion of water in the hotel industry. Numerous loads are washed each day in order to ensure that guests have not only clean towels, but also clean sheets. In order to lessen water usage in the laundry room, hotels have begun programs to provide incentives for guests to decline housekeeping services; therefore, “encouraging guests to use their towels and linens for more than one day” (Kim, Palakurthi, & Hancer, 2012). If guests choose to opt in, they can refrain from having their towels and sheets washed, benefitting by earning a reward in the hotel “point-system” (Marin, 2016). Other rewards that guests can earn, depending on which hotel company they are staying with, include meal vouchers and drink specials; these coupons raise revenue in the hotel restaurant as well as save the hotel money: a

win-win situation! Guests who choose the points over fresh sheets assist in reducing the amount of laundry hence reducing the amount of water used. A study conducted specifically on guest's consciences concluded that the "incentives [negatively] affect the warm glow and satisfaction of those who choose not to participate in a voluntary prosocial activity" (Giebelhausen, Chun, Cronin Jr., & Hult, 2016). Through these incentive programs, the housekeeping staff will still come into guest's rooms to make the bed but will not change the sheets or replace the towels. The main priority hotel managers must keep in mind while deciding which "green" programs to implement is customer satisfaction, specifically boosting it. Through many research projects and analyzations, it can be contended that "overall customer satisfaction is maximized with the right mix of incentives" (Giebelhausen et al., 2016).

In addition to adopting programs that conserve energy and reduce water usage, hotels are exploring avenues to incorporate paperless systems. These systems are beginning to be found not only in the reservation, check in, and check out processes, but also in housekeeping and hotel restaurants. Hotels are technologically advanced in the way that electronic devices are used at the front desk in order to confirm guest reservations and check guests in for their stay. Paper has been almost eliminated from this process as a result. Studies show that hotels have taken their reduction in paper usage a step further with iPads. iPads have been assigned to maids in the hotel and through an app, all of the maids are able to view lists of rooms requiring housekeeping and log which rooms have been cleaned as they work through their duties. For hotels that have upwards of 1,000 rooms, this has greatly reduced the amount of paper that is printed out for the day and recycled right after. Finally, paper menus have even been revoked, and while they are still hand-held, they are in a different form: electronic. iPads have become a substitute for paper menus as managers of hotel restaurants have realized the ecological element to them (Chan,

2017). While recycling is a valid way to create sustainable practices in hotels, with how advanced our society is, we have assets available to use and would be self-interested if we did not. By using electronic devices, hotels are able to “save the printing cost, [and] reduce the use of paper” (Chan, 2017) resulting in more eco-friendly practices. Hotel managers that consider taking paper usage one step further have a vision focused on the future and how their present-day actions can sustain resources available in the future.

Marcus Cordero (2010) of the Green Business Bureau said it best: “The main concern of any business when enacting change, of course, is cost”. Common setbacks that have occurred, preventing these environmental technologies from being applied in the hotel industry, include the lack of familiarization with current technologies by hotel managers as well as budget and technical constraints. We live in a world of scarcity where our unlimited wants exceed our limited resources; money is one of these limited resources. While hotels can reroute and reallocate funds to different activities in the hotel by reassessing their budgets, funds are simply lacking more often than not, meaning that based on their current expenses, hotels do not have the money. This being said, hotels may have to put out the additional money up front to incorporate sustainable practices in order to collect a return on this huge investment. As seen through the many studies conducted, it appears that hotels “focus first on saving energy, rather than saving water” (Chan, 2017) and these studies have also concluded that hotels “consider eco-appliances first despite the higher price” (Chan, 2017). This shows a promising impact in the way that managers’ minds are already wired to select the best option to preserve our limited resources in the environment. They know the potential benefits, for the hotel and environment, that can result from their choices and are willing to make sustainable ones. However; at the same time, hotels are hesitant to implement sustainability programs in fear that it may decrease customer



satisfaction. In the research of Giebelhausen et al. (2016), it was concluded that hotel managers made executive decisions of “canceling reuse programs because of a few guest complaints and discontinuing restaurant recycling programs because patrons found them confusing”. While hotel managers were working to boost customer satisfaction with these programs, they were doing just the opposite. In order to improve the programs, managers must evaluate them to make sure that they are user-friendly. Many studies also speak to the guilt guests feel when they do not participate in the eco-friendly initiatives and have concluded that guilt-tripping guests into participating is not the solution and only produces negative consequences. Research shows that guests are much more willing to participate, making the “green” initiatives successful if they are filled with a sense of pleasure as a result of doing a good deed (Marin, 2016).

In conclusion, while environmentally sustainable programs and initiatives may cost hotels more up front, they will reap benefits after long-term use. There are numerous additional possible techniques that hotels can implement to improve their eco-friendliness; however, LED lights, key-card systems, water restrictors, and paperless systems are creating the most sustainable environments in the hotel industry thus far. These programs will not only assist by reducing hotel costs as well as improving their image to the public but also creating for a better future. While some scholars hold a negative view, believing that applying sustainable practices incurs significant costs, consequently reducing hotel profit and their capacity to compete, we must take a deeper look to truly understand the way these initiatives will positively impact a hotel’s business as well as the world we live in. By using fewer resources today, we will have more available tomorrow as well as for future generations to use. Hotels are becoming mindful of this fact and, as a result, are exploring and implementing programs that encourage sustainability.

## References

- Chan, E. S. W. (2017). The applications of environmental technologies in hotels. *Journal of Hospitality Marketing and Management*, 26(1), 23-47.  
doi:10.1080/19368623.2016.1176975
- Cordero, M. (2010). Making smart, green changes can reap huge rewards for hotels. *Hotel Business*, 19(21), 12. Retrieved from  
<http://ezproxy.fhsu.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=hjh&AN=57196336&site=ehost-live&scope=site>
- Giebelhausen, M., Chun, H. H., Cronin Jr., J. J., & Hult, G. T. M. (2016). Adjusting the warm-glow thermostat: How incentivizing participation in voluntary green programs moderates their impact on service satisfaction. *Journal of Marketing*, 80(4), 56-71.  
doi:10.1509/jm.14.0497
- Kim, Y., Palakurthi, R., & Hancer, M. (2012). The environmentally friendly programs in hotels and customers' intention to stay: An online survey approach. *International Journal of Hospitality & Tourism Administration*, 13(3), 195-214.  
doi:10.1080/15256480.2012.698169
- Marin, M. (2016). Can sustainable initiatives boost guest satisfaction? *Hotel Business* 25(15), 78.  
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